Dos and Don'ts of Phase I Proposals

Sponsored by
Indiana Economic Development Corp.
SBIR Office

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INDIANA
Accelerate Your Business

Ground Rules for the Presentation

- Remember each agency has different rules, expectations and outcomes
- There is an exception to almost every situation I will present today; it's a government program
- SBIR=STTR

Outline for Today

- Overview of the program
- Identifying your team
- Basic proposal outline
- Creating an effective work plan
- Budgeting

Overview of the Program

What Does SBIR and STTR Really Mean?

SBIR

Small Business Innovation Research

- Promotes technological innovation and commercialization by small businesses

STTR

Small Business Technology Transfer

- Promotes cooperative research and development between small business and U.S. research institutions

SBIR/STTR Program

- Small Business Innovation Development Act of 1982
  - Stimulates technological innovation
  - Small businesses meet federal R&D needs
  - Fosters and encourages participation by minorities and disadvantaged persons in technology innovation
  - Increases private sector commercialization innovations derived from federal R&D

SBIR/STTR Program

- Preferences, but no set-asides for certain identifiers
- In FY 2007, estimated 3,800 awards made for a total of more than $2.5 billion
- SBIR/STTR=Growth in U.S. economy and market presence

SBIR vs. STTR

SBIR	STTR
Permits research institution as a partners	Requires research institution as a partner
Primary employment (at least 51%) of PI must be with small business	PI employment not stipulated
Responsible for at least 66% of the work	Responsible for at least 40% of the work

Why SBIR?

- Allows businesses to:
  - Maintain control of operations
  - Retain all intellectual property
  - safely "test" new ideas
- Recognizes—REQUIRES—an inherent sense of RISK in exploring new ideas—there will be failures
- Success rate is greater than other sources; other sources attracted to SBIR success

SBIR/STTR Reauthorization

- Reauthorized in 2000 until end of FY2008
- Currently in a Continuing Resolution until March 20, 2009

"It is very likely that reauthorization outcome will not be your father's SBIR program"

SBIR/STTR Reauthorization

- Another Continuing Resolution is likely
- Changes in administration give pause
  - Obama names VC Karen Mills to head SBA
  - Heavy focus on investment sector

SBIR/STTR Reauthorization

Senate Committee on Small Business and Entrepreneurship (SBE)

- 11 Democrats ; 8 Republicans
- New SBE Chair, Senator Mary Landrieu (D-LA)
- Olympia Snow remains a ranking member (R-ME)
- Former Chair John Kerry remains on the committee (D-MA)
- Evan Bayh remains on the committee (D-IN)




SBIR/STTR Reauthorization

- Senator Feingold (D-WI) introduced a reauthorization bill on January 8, 2009
  - Extending program to 2022
  - Incrementally raising the cap by 2.5% per year topping out at 10% in 2012
  - Award levels of $300,000 for Phase I and $2.2 million for Phase II
- Not likely to pass

Three-Step Program

- Phase I
  - Feasibility
  - $70-$100K
  - 6 to 9 months
- Phase II
  - Prototype
  - Up to $750K
  - Usually 2 years
- Phase III
  - Commercialization
  - No SBIR funds
  - Sole-source procurement

A variety of other funding mechanisms—depending on agency and success

Who is eligible for SBIR?

- At least 51% owned and controlled by U.S. Citizens or Permanent Resident Aliens

or

- Owned and controlled by a (one) for-profit small business that is 51% owned and controlled by U.S. Citizens or Permanent Resident Aliens in the United States
- Hot topic for reauthorization: Venture Capital

Who is eligible for SBIR?

- 500 or fewer employees, including affiliates
- For profit business
- Located and primarily operated in the United States

- PI's primary employment must be with the small business at the time of the award

Who is eligible for STTR?

- Same as SBIR, but must meet additional qualifications:
  - Applicant must be small business concern (minimum 40% effort)
  - It must be a formal cooperative R&D effort
  - Intellectual property agreement must be in place
  - U.S. Research Institution must be involved (minimum 30% effort)

Definition: Research Institution

- Non-profit research institutions
- Non-profit medical or surgical hospital
- Federal labs (Federally Funded Research and Development Centers, FFRDC)
- Non-profit college or university

Eligibility Points for Both SBIR/STTR

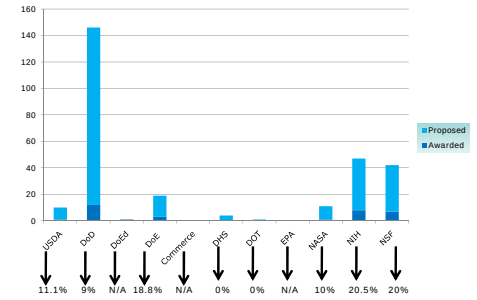
- Applications may be submitted to multiple agencies for similar work
- Applications for different work may be submitted to same agency

- Must disclose all and can only accept one award for each project

Who Wins in SBIR?

- About **33%** of Phase I winners each year have never won before
- 41% of companies have between 2 and 9 employees
- For some agencies, odds are 1 in 10

SBIR Phase I for Indiana (2007)



The Phase I Proposal

....Before You Write

Before You Start Writing

- Make Sure your project fits the SBIR framework
- Download application package or print out requirements of contracting agency
- Read requirements and guidelines
- Contact Program Manager/POC

Contact Program Manager/POC

- SBIR is a relationship-based program
- Follow agency protocol
- Initiate contact via email, with follow-up phone call (if appropriate)
- Be an educated investigator!
- They are from the government, but they *really are* there to help!

Contact Program Manager/POC

- Ask open-ended questions

- This is not a sales call

- Get insight into the end goal or the problem to be solved

Contact Program Manager/POC

- Focus discussion on solving the agencies problem, not more research in your lab
- Establish your credibility and demonstrate your knowledge
- Ask about the review process

- Listen, don't talk!

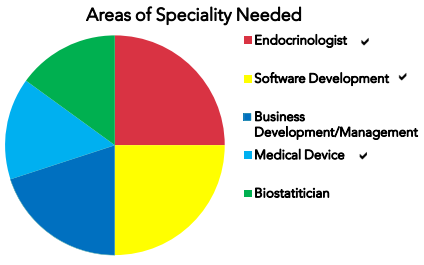
Before You Start Writing

- Seek support from available resources
- Designate roles and responsibilities to team members
- Build a great team

Build a Great Team

- Company: MyHealthStats
- Project: Web-based data collection and behavior modification system for diabetics
- Team:
  - Bob, PI-MD (CEO of MyHealthStats, former Endocrinologist)
  - Judy, Software Developer (employed F/T by MyHealthStats)
  - Steve, Consultant (Diabetes consultant, former Roche VP)

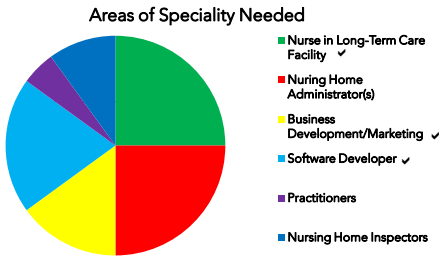
Build a Great Team



Build a Great Team

- Company: NursingCare
- Project: *NurseWatch*, new self-evaluation of quality of care indicators for nursing homes and long-term care facilities
- Team:
  - Karen, PI (CEO of NursingCare, 15 years experience as long-term care nurse)
  - Mike, CFO/COO (will be F/T at NursingCare if awarded)
  - Don, Software Developer (F/T at NursingCare)

Build a Great Team



Before You Start Writing

- Develop a timeline
  - A good proposal requires well over 80 hours of effort
  - Allow a minimum of four weeks (registrations, letters of support, etc.)
  - Allow one week for mishaps
  - Submit day before deadline

The Phase I Proposal

….Writing Your Proposal

The Proposal

- Three common mistakes:
  - Not enough detail
  - Too much unrelated information
  - Not following agency's guidelines

The Proposal

- Organize the proposal with:
  - The agency's numbering and lettering
  - Headers for each section
  - Left-justification
  - Short paragraphs separated by a space
  - Only defined abbreviations

The Proposal

- Use your company name
- Be positive in your approach, use "will"
- Use citations for references
- Know who your reviewers are

The Proposal

- Follow the rules, all the rules!
- Use clearly labeled, descriptive and relevant visuals
- Stay focused on the questions
- Avoid technical jargon

The Proposal

- Keep focused on feasibility
- Do not refer to things outside the content of the proposal
- Define less than common words, spell out acronyms, etc.

Common Elements of SBIR Proposals

- Cover Letter
- Abstract/Project Summary
- Specific Aims/Technical Objectives
- Background & Significance
- Preliminary Studies
- Related R/R&D
- Research Methods & Design/Work Plan
- Relationship with Future R&D
- Key Personnel/Principle
- Subcontractors/Consultants
- Commercialization
- Cost Proposal/Justification
- Others:
  - Facilities/equipment
  - Human subjects
  - Prior, Current or Pending Awards
  - Company Information
  - Letters of support
  - Biographical sketches
  - SBIR Forms

Abstract or Project Summary

- Designed to give an overview (full picture) of the project
- Public information
- Write this LAST
- Make it a mini-version of the proposal

Abstract or Project Summary

- Sometimes includes additional sections:
  - Benefit
  - Taxonomy
  - Project Narrative
  - Keywords
  - Summary of Anticipated Results

Identification and Significance of the Problem or Opportunity

- In most agencies—other than NIH
- Open with a powerful declaration of the need, the problem
  - Give statistics
  - See solicitation (some tell you the problem)
  - Convince the reader of the impact

Identification and Significance of the Problem or Opportunity

- Follow with why the agency should care (costs, lives, etc.)
  - Include Agency's own language or description
- Summarize the state of the technology now
- End with a description of your solution

Specific Aims (NIH)

- Open with declaration of the need
- Follow with why the agency should care
- Refer to agency's statement of interest
- Summarize the state of the technology now, and follow with your solution
- State the hypothesis for Phase I and how you will test it (Aims)

Specific Aims (NIH)

- Aims should be:
  - Listed in chronological order
  - Achievable within the project period/program limits
  - Action-oriented
- Provide a summary paragraph describing success in Phase I
- Touch on plans for Phase II efforts

Background & Significance/Rationale

- Define the need
- Conduct a literature review
- Should not be longer than about 2-3 pages
- Demonstrate your knowledge of state of the art
- NIH—include commercialization information

Preliminary Studies (NIH)

- Not required for Phase I (but it is)
- Share what you already know
- What makes you think this is possible?
- Be careful: preliminary, not conclusive.
- Mention previous work that has led to the development or idea

Technical Objectives

- Outline technical objectives with some detail of their purpose
- What questions will they answer?
- Use language from solicitation
- How will you know you have achieved feasibility?

Research Design & Methods/Work Plan

- Largest part of the proposal
- Most often the weakest
- Detail, detail, detail
- Describe how each objective will be achieved
  - Where
  - Using what
  - How long will it take
  - Who will do the tasks

Research Design & Methods/Work Plan

- Answer the big questions for each statement in the work plan
- Summarize with a simple Gantt chart (NOT Microsoft project)
  - Objective/Aim
  - Timeline
  - Responsible Party
  - Benchmarks
- Mention of Indiana SBIR matching funds

Sample Simple Gantt Chart

Objective/Aim	Months						Responsible Party	Benchmarks
	1	2	3	4	5	6		
1) Objective 1							PI Smith IUPUI lab	Website developed.

Research Design & Methods/Work Plan

Aim 1) Determine the most appropriate and effective location of the battery chamber in the detector.

Four preliminary prototypes will be produced from modeling material to scale. The PI will identify four potential locations for the battery chamber and will determine the feasibility of each configuration using the following criteria:

- proximity to detection source,
- Connection requirements, and
- Available space for other components.

Research Design & Methods (NIH) Work Plan (Non-NIH)

Aim 1) Determine the most appropriate and effective location of the battery chamber in the detector.

Four preliminary prototypes will be produced (why four?) from modeling material (what kind of modeling material; why did you choose that kind? Where will they be produced? Who will make them?) to scale.

The PI will identify four potential locations (why four? What is he/she basing those locations on?) for the battery chamber and will determine the feasibility of each configuration using the following criteria:

- proximity to detection source (what proximity is desirable?),
- Connection requirements (what is needed?), and
- Available space for other components (what other components are required and how much space to they need?).

Related Research/Related Work

- Serves as Background and Significance section for some agencies
- Discuss efforts directly related to the technology in the proposal
- Must persuade reviewers that you are aware of related research in the subject area
- Citations should be included

Future Research or R&D

- How will this Phase I build a foundation for future?
- What would Phase II bring?
- How will this impact the company?

Key Personnel

- Description of business and key personnel
- Narrative of qualifications
- Advanced degrees not required for PI, but better have someone on the team with one (even as a consultant)
- Published in peer review journals (NIH)

Key Personnel

- Demonstrate the full capacity of the company
  - Past commercialization
  - Financial infrastructure
  - Leadership
  - Marketing capabilities
- Build a strong team
- Don't list subcontractors in Key Personnel
- Make the risk in the technology, not in the award.

Commercialization

- Do good market research
- Include stats on current and potential market (impact)
  - How will you enter the market?
  - Who you will sell to, license to?
  - Do you have letters of agreement/interest?

- No SBIR money for marketing and commercialization activities

Commercialization

If you think your technology is so innovative no one else is doing it, think again

OR

If you think your technology is so innovative that there isn't a market for it yet, it's not SBIR material

SBIR is focused on growing U.S. markets; you must show there is a market for your product

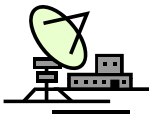
Subcontractors/Consultants

- Describe relationships in detail
- Provide the following for each:
  - Qualifications
  - Role on project
  - Number of hours
  - Rates
  - Total contract value
  - Scope of work/deliverables

- Also include a letter of support confirming the information described in the narrative

Facilities

- Describe your facilities:
  - Square feet
  - Location
  - Work space
  - Lab space



- Consider facilities you have access to, if needed (incubator? University? Contractors?)

Equipment

- List equipment you already have to complete the Phase I (or Phase II)
- For some agencies, rationale for purchase of additional equipment
- Should have everything necessary for Phase I
- List other equipment you have access to, should you need it
- List equipment of subcontractors

The Budget

- Realistic and accurate
- Correspond with narrative

- Watch equipment (over $5,000)
- Limited travel (no overseas), some require travel

The Budget

- Overhead rate 40% (how calculated varies)
- F&A Varies
- Profit fee 7 percent
- All budgets negotiated at award
  - "Phase I budget isn't primary concern" (NIH)

The Budget

- Keep within agency's budget requirements
- Always take full 7 percent profit
- Take as much F&A or Overhead as allowed on total project
- Watch for "Options"
- Get budgets from subawards

Budget Justification

Personnel ($61,920)
Dr. Smith, PI, will contribute 60 percent effort to this project. Annual salary is $150,000. Salary for 6 months is $75,000, with 60 percent effort, calculates to $45,000. Tom Jones, Director of Operations will contribute 60 percent effort to this project for the duration f the 6 month project period. His salary for six months is $22,500 (based on an annual salary of $45,000) for a total of $13,500. Benefits for both positions combined total $960 per month, with a six month project period and 60 percent effort, the total for benefits is $3420.

Travel ($3,479)
Much of the Phase I work will occur on the campus of That State University. Travel expenses include a weekly trip to That State University in Moonee, Indiana from BioStuff's office in Indianapolis, Indiana. Average of two trips per week, at 120 miles per round trip reimbursed at a rate of .48 cents per mile for 24 weeks (6 month project period) $2,765.

One trip will be required to Larger City, Illinois. The PI will travel to Larcer City to meet with renowned content experts in the field of Biology at Larger City University. Travel will include airfare ($234), one night at a hotel ($250), ground transportation ($50) and a per diem of $75 per day for two days for a total of $714.

Consultant Costs ($5,000)
Steve Smith will serve as the lead engineer on this project. Smith brings a wide range of experience in the biostuff industry to the table and had agreed to participate in the project for a consultant's fee of $5,000. See the attached scope (or letter of agreement) for additional details related to the fee.

Other Elements of a Proposal

- Responsiveness
- Equipment
- Resources
- Letters of Support
- Human Subjects
- Budget Justification/Narrative
- Biographical Sketches
- SF 424, other required forms

Dos and Don'ts of Phase I Proposals

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